

# PATENT COOPERATION TREATY

# PCT



## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 22 DEC 2005

WIPO

Applicant's or agent's file reference	<b>FOR FURTHER ACTION</b> See Form PCT/PEA/416	
International application No. PCT/GB2004/005264	International filing date (day/month/year) 15.12.2004	Priority date (day/month/year) 18.12.2003
International Patent Classification (IPC) or national classification and IPC A23G3/00, A23G9/00, A23G9/04, A23G9/02, A23G9/08, A23G9/16		
Applicant UNILEVER PLC et al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 9 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p style="margin-left: 20px;">a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p style="margin-left: 20px;">b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input checked="" type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand  28.06.2005	Date of completion of this report  21.12.2005	
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Georgopoulos, N  Telephone No. +49 89 2399-2634 <div style="text-align: right;">  </div>	

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-14 as originally filed

**Claims, Numbers**

1-14 received on 12.10.2005 with letter of 10.10.2005

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☒ the claims, Nos. 1-14
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

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1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
- ☐ the entire international application,
  - ☒ claims Nos. 15-17  
because:
    - ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):
    - ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
    - ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
  - ☒ no international search report has been established for the said claims Nos. 15-17
  - ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
    - the written form ☐ has not been furnished
    - ☐ does not comply with the standard
    - the computer readable form ☐ has not been furnished
    - ☐ does not comply with the standard
  - ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
  - ☐ See separate sheet for further details

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**Box No. IV Lack of unity of invention**

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1. ☒ In response to the invitation to restrict or pay additional fees, the applicant has:
- ☐ restricted the claims.
  - ☐ paid additional fees.
  - ☐ paid additional fees under protest.
  - ☒ neither restricted nor paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with.
  - ☒ not complied with for the following reasons:  
**see separate sheet**
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
  - ☒ the parts relating to claims Nos. 1-14 .

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-14
	No: Claims	
Inventive step (IS)	Yes: Claims	1-14
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII    Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Item I**

- 1 One of the amendments filed with the letter dated 10.10.05 does not meet the requirements of Art.34 (2) (b) PCT. The amendments concerned is as follows:
  - i/ The addition of the formulation "and wherein ... takes place" in present claim 1  
The originally filed description (see page 5, lines 15-16 thereof) discloses that the "aerating gas" (generic term) is generated as freezing takes place. Moreover, said description does not disclose that the aforementioned gas generation refers to the entire scope of originally filed claim 1 (see also page 5, lines 21-24 of the above-mentioned description). Therefore, said amendment leads to a specific disclosure not contained in the originally filed application documents.
- 2 Consequently, examination will be carried out on the basis of the originally filed application documents.

**Item III**

- 3 No examination with respect to novelty, inventive step or industrial applicability will be carried out for the subject-matter of present claims 15-17, as no search was carried out for the subject-matter of the aforementioned claims (lack of unity; see Item IV below).

**Item IV**

- 4 The present application does not meet the requirements of unity of invention (Rule 13 (1) PCT). The separate inventions are:
  - i/ **Present claims 1-14**  
Method for producing a frozen aerated confection having an overrun of at least 15%, said method comprising quiescently freezing a mix containing a carbon dioxide generating composition, wherein said mix does not comprise a gel.
  - ii/ **Present claims 15-16**  
A frozen confectionery product comprising a plurality of discrete water ice pieces, wherein said water ice pieces are aerated.
  - iii/ **Present claim 17**

Use of a CO<sub>2</sub> generating composition to aerate a frozen confection, wherein the mix does not comprise a gel.

- 5 The above-mentioned inventions are not so linked as to form a single general inventive concept (Rule 13 (1) PCT) for the following reasons:

- 5.1 In the first invention, the Special Technical Feature (STF) is the combination of two technical features: a/ an overrun being at least 15%; and b/ the absence of a gel in the mix for producing the frozen aerated confection. Said combination brings about a texture that is not chewy or gummy (see page 1, lines 22-35 as well as page 6, lines 9-16 of the present description).

In the second invention, the STF is the presence of discrete aerated water ice pieces. Due to said water ice pieces an improved storage ability of the confectionery product is achieved (see also page 7, lines 24-26 and page 14, lines 4-7 of the present description).

In the third invention, the STF appears to be the absence of a gel in the mix for producing the frozen aerated confection. However, the aforementioned combination is not mentioned, and therefore the desired texture cannot be brought about either.

- 5.2 As the aforementioned inventions do not have the same or corresponding STF, the present application lacks unity. And as only the subject-matter relating to the first invention (present claims 1-14) was searched, said subject-matter will also be examined with respect to novelty, inventive step and industrial applicability.

#### **Item V**

- 6 Reference is made to the following documents:

D1: US-B-6 187 365

D2: US-A-2003/104004

- 7 The subject-matter of present independent claim 1 is novel (Art.33 (2) PCT), for the following reasons:

- 7.1 D1 discloses a process for the production of a moulded aerated frozen bar. However, the mix for the production of said bar contains gel-forming stabilisers and does not contain a carbon dioxide generating composition (see examples 1, 2; claims 1, 9 and 15 of D1).  
D2 does not disclose a mix for the production of frozen aerated confectionery products, said mix containing a carbon dioxide generating composition (see [0070] - [0074] of D2).
- 8 The present application meets the criteria of Article 33 (1) PCT, because the subject-matter of present independent claim 1 involves an inventive step in the sense of Article 33 (3) PCT.
- 8.1 Document D1, is considered to represent the most relevant state of the art to the subject-matter of claim 1. The technical problem to be solved by the present invention may therefore be regarded as how to provide an alternative to the method of D1, without requiring complex equipment such as an ice cream freezer (see page 1, lines 34-35 of the present description as well as examples 1 and 2 of D1).  
The method of D1 differs from present invention's method in that the former the mix for the production of a moulded aerated frozen bar: a/ contains gel-forming stabilisers; and b/ does not contain a carbon dioxide generating composition (see also section 7.1 above).  
D2 is in a remote technical field (that of food products suitable for reducing cholesterol levels; see also [0002] of D2) and addresses the technical problem of providing a food product that contains statin but has no undesired colouring (see [0017] of said document). The possibility of omitting stabilisers disclosed in D2 is not in the context of the technical problem according to the present invention (i.e. how to provide aerated frozen confections, which do not exhibit a chewy or gummy texture, see page 1, lines 22-35 of the present description). Therefore, the skilled person would not combine D1 and D2 in order to arrive at the claimed invention. Thus, the subject-matter of present independent claim 1 would not be obvious to the skilled person in regard of the combination (D1+D2).
- 9 The subject-matter of present claims 1-14 is susceptible of industrial application in the field of food industry (Art.33 (4) PCT).



**Item VII**

- 10 Contrary to the requirements of Rule 5.1 (a) (ii) PCT, the relevant background art disclosed in the documents D1 and D2 is not mentioned in the description, nor are these documents identified therein.
- 11 The statement "All publications ... reference" (see page 14, lines 14-15 of the present description) does not meet the requirements of the Guidelines, Part I, 4.27.

**Item VIII**

- 12 The expression "and non-limiting" (see page 7, line 34 of the present description) as well as the statement "Various modifications ... following claims" (see page 14, lines 15-21 of the present description) do not meet the requirements of Rule 9.1 (iv) PCT.

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Claims

1. A method for producing a frozen confection having an overrun of at least 15%, which method comprises quiescently freezing a mix containing a carbon dioxide generating composition, characterised in that the mix does not comprise a gel and wherein carbon dioxide is generated as freezing takes place.
2. A method according to claim 1 wherein the frozen confection has an overrun of at least 25%, preferably 40%.
3. A method according to claim 1 or claim 2 wherein the mix contains less than 1% stabiliser, preferably less than 0.3%.
4. A method according to any preceding claim wherein the frozen confection is a water ice.
5. A method according to any preceding claim wherein the carbon dioxide generating composition comprises an acid and a carbonate.
6. A method according to claim 5 wherein the acid is a food grade organic acid such as citric acid, malic acid, ascorbic acid, lactic acid, succinic acid or tartaric acid.
7. A method according to claim 5 or claim 6 wherein the carbonate is a food grade material that is insoluble in water.
8. A method according to claim 7 wherein the carbonate is calcium carbonate.
9. A method according to any preceding claim wherein the mix is quiescently frozen in a mould.
10. A method according to any preceding claim wherein the mix is partially slush frozen before it is quiescently frozen.
11. A method according to claim 10 wherein carbon dioxide generation is caused to occur before the mix is partially slush frozen.
12. A method according to claim 10 wherein carbon dioxide generation is caused to occur after the mix is partially slush frozen and before it is quiescently frozen.

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13. A method according to any of claims 1 to 9 wherein the mix is not partially slush frozen.
14. A method according to any preceding claim wherein the mix is quiescently frozen.

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AMENDED SHEET

10/10/2005

Empf.zeit: 10/10/2005 17:00

Empf.nr.: 029 P.005